

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 92-052

SITE CLEANUP REQUIREMENTS FOR:

LOMBARDO DIAMOND CORE DRILLING COMPANY, INC.

FOR THE PROPERTY LOCATED AT:
585 ROBERT AVENUE, SANTA CLARA
SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board) finds that:

1. Lombardo Diamond Core Drilling Company, Inc. (hereinafter referred to as Lombardo) owns the property at 585 Robert Avenue in Santa Clara, and has used and currently uses the two-acre (approximately) site only for parking and storage of vehicles, heavy equipment and supplies, used in its concrete-cutting business. The only structure currently on the property is a warehouse in the eastern, reportedly unaffected, portion of the site. A former industrial manufacturing facility on the site was demolished in 1987. Site investigations have shown the presence of metals pollution in soil and groundwater.
2. Lombardo purchased the property from Gilmore Supply Company in April of 1985 and began use of it at that time. Soil- and groundwater-pollution by metals had been identified before Lombardo purchased the property.
3. During the 1960s and 1970s Gilmore Supply Company leased the property to Metal Coating Company/Galvanizers, Inc. which operated a galvanizing facility at the site. It is believed that a galvanizing facility was in operation until approximately 1981.

Metal Coating Company allegedly discharged waste pickling and washing solutions onsite; information on quantities and specific waste components is not available.

4. Current addresses of Gilmore Supply Company and Metal Coating Company/Galvanizers, Inc. are not known. The Board is attempting to determine these addresses; once located, it is anticipated that this Order will be amended to name both parties as dischargers.
5. The general direction of groundwater movement reportedly is from south to north. Depth to groundwater originally was reported as about ten feet below the surface; more recently (1991) the depth has been reported as about 13 feet. An aquitard at 36-46 feet is interpreted to separate the A-and B-zones.
6. Early site work was of a limited extent. In 1981-1982 Metal Coating Company/Galvanizers, Inc. conducted a preliminary site investigation while Gilmore Supply Company was the site owner. Additional site work apparently was accomplished by Gilmore Supply Company in 1983.

7. Soil and groundwater sampling revealed only metal pollutants; no VOCs were identified. The predominant metals were chromium, lead and zinc, with zinc having the highest concentrations. A total of 531 cubic yards of soil was excavated and removed in September 1983, after which additional soil testing was performed. At the conclusion of this work it was determined that metals pollution was detected in two environments: (a) soils with a "neutral" pH in the range of 6 to 8 units, and (b) soils with a significantly depressed pH (less than 6 units).
8. The initial investigations showed concentrations of zinc and lead in shallow soils behind (north of) the former galvanizing facility (building), and beneath the building. Subsequent investigation indicated that zinc migrated deeper, and that lead appeared to attenuate within about five feet of the surface.
9. Where the pH was less than 6, metal concentrations, particularly zinc, were higher and extended deeper; when it was found that concentrations of lead and zinc increased with depth from 2,000 ppm (mg/kg) to 8,000 ppm (mg/kg) beneath the building used for galvanizing operations, the focus of the investigation shifted to groundwater. Low pH values were found in borings at depths of about 25 feet, and were suspected to extend at least to the 30-foot level, suggesting that zinc pollution would also extend to a similar depth.

A deeper regional aquifer exists below a depth of about 200 feet, separated from the upper shallow aquifer(s) by fine-grained sediments. The lower aquifer is a major water-supply source.
10. Following an effort to prepare a cleanup program and the removal of 531 cubic yards of polluted soil, in 1983 the Gilmore Supply Company recommended to the Board that the site be capped and a monitoring program implemented.
11. In 1984 the Board agreed to a cessation of soil characterization and remediation activities for a period of two years in order to conduct a quarterly groundwater monitoring program for the purpose of assessing impact to water quality. The program was initiated in 1985 and terminated in 1987.
12. The monitoring program indicated groundwater impact locally in the shallow A-zone in the immediate vicinity of the former galvanizing facility. In 1987 Lombardo (through its Consultant) recommended continuation of a modified groundwater monitoring program; no additional corrective action was proposed.
13. In April 1990 the Board requested a current status report for the site and specifically concerning previously reported groundwater impact. Inasmuch as three years had elapsed since the last previous sampling event, Lombardo resampled certain wells prior to submitting a report.
14. It was confirmed in 1990 that high concentrations of zinc were present in the shallow A-zone immediately underneath the former galvanizing facility; some lateral migration of zinc was detected.

15. Following some additional site soil characterization, it was estimated that the main area of pollution contained approximately 3,000 cubic yards of zinc-impacted soil. Based on further analysis, Lombardo concluded that more site work was necessary before a realistic remediation plan could be developed.
16. As a result of work accomplished in 1991, Lombardo reported that:
 - a. The vertical impact of soil pollution extends to about 30 feet, as was previously determined, but the horizontal impact beneath the former galvanizing facility is greater than previously surmised, particularly in the 15-20-foot depth zone;
 - b. Data do not indicate either a lead or chromium problem at this site;
 - c. The bulk of the zinc impact lies within a zone 10-25 feet below the surface in the vicinity of the former galvanizing facility;
 - d. In the northern part of the site area the zinc impact is low to moderate, aerielly variable and limited to the upper few feet of soil;
 - e. In the north-central part of the site area the zinc impact is low to moderate, aerielly variable and limited to the upper 13-18 feet of soil;
 - f. Neither the soil nor groundwater impact appears to extend offsite.
17. The maximum concentrations of zinc reported in 1991 are 34,000 ppm in soil and 369 ppm in groundwater. The MCL in drinking water is 5.0 mg/l (ppm).
18. Metal Coating Company, Gilmore Supply Company, and Lombardo each has conducted an investigation of metals impact at 585 Robert Avenue in Santa Clara. Only Gilmore Supply Company is known to have attempted some site remediation (soil removal).
19. Metal Coating Company is a discharger because it discharged wastes to the ground while it occupied the site and operated a galvanizing facility. Gilmore Supply Company is a discharger because it was the owner of the property while a galvanizing facility was located and operating there, and may have been involved in galvanizing operations part of the time. Lombardo is a discharger because it is the current owner of the property and metals may still be leaching out of polluted soil and into waters of the State.
20. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on December 17, 1986. The Basin Plan contains water quality objectives for South San Francisco Bay and contiguous surface waters and groundwater.
21. The existing and potential beneficial uses of the groundwater underlying and adjacent to the property include:

- a. Industrial process water supply
 - b. Industrial service supply
 - c. Municipal and domestic supply
 - d. Agricultural supply
22. The dischargers have caused or permitted, and threaten to cause or permit waste to be discharged or deposited where it is or probably will be discharged to waters of the State and creates or threatens to create a condition of pollution or nuisance.
 23. This action is an Order to enforce the laws and regulations administered by the Board. This action is categorically exempt from the provisions of the CEQA pursuant to Section 15321 of the Resources Agency Guidelines.
 24. The Board has notified the dischargers and interested agencies and persons of its intent under California Water Code Section 13304 to prescribe Site Cleanup Requirements for the discharge and has provided them with the opportunity for a public hearing and an opportunity to submit their written views and recommendations.
 25. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to Section 13304 of the California Water Code, that the dischargers shall cleanup and abate the effects described in the above Findings as follows:

A. PROHIBITIONS

1. The discharge of wastes or hazardous materials in a manner which will degrade water quality or adversely affect the beneficial uses of waters of the State is prohibited.
2. Further significant migration of pollutants through subsurface transport to waters of the State is prohibited.
3. Activities associated with the subsurface investigation and cleanup which will cause significant adverse migration of pollutants are prohibited.

B. SPECIFICATIONS

1. The storage, handling, treatment or disposal of polluted soil or groundwater shall not create a nuisance as defined in Section 13050 (m) of the California Water Code.
2. The dischargers shall conduct further reporting, site investigation and monitoring activities as needed and as described in this Order. Results of such monitoring activities shall be submitted to the Board. Should monitoring results show evidence of plume migration, additional plume characterization may be required.
3. Final cleanup standards for polluted groundwater shall be in accordance with State Water Resources Control Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California". Proposed final cleanup levels shall be

based on a feasibility study of cleanup alternatives that compare cost, effectiveness, time to achieve cleanup standards and an assessment of risk to determine effect on beneficial uses, human health and the environment. Cleanup levels shall also have the purpose of reducing the mobility, toxicity, and volume of pollutants. Final cleanup levels shall be approved by the Board.

Final cleanup standards for soil shall be approved or determined by the Executive Officer based upon site specific information submitted by the dischargers. If the dischargers propose soil cleanup standards they shall use site specific information to demonstrate that the proposed standards will not allow concentrations of metals in soil that will threaten the quality of waters of the State, and that cleanup to these levels will protect human health and the environment or more stringent cleanup levels are infeasible.

4. The dischargers shall optimize, with a goal of 100%, the reclamation or reuse of groundwater extracted as a result of cleanup activities. The dischargers shall not be found in violation of this Order if documented factors beyond the dischargers' control prevent the dischargers from attaining this goal, provided the dischargers have made a good faith effort to attain this goal.

C. PROVISIONS

1. The dischargers shall perform all investigation and remedial work in accordance with the requirements of this Order.
2. The dischargers shall submit to the Board acceptable monitoring program reports containing results of work performed according to a program prescribed by the Board's Executive Officer.
3. The dischargers shall comply with all Prohibitions and Specifications of this Order, in accordance with the following time schedule and tasks:

a. FINAL REMEDIAL ACTION PLAN

- 1) **TASK 1: PROPOSED CLEANUP LEVELS IN SOIL.** Submit a technical report acceptable to the Executive Officer which proposes cleanup levels in soil for identified pollutants (metals), and documentation to show that the proposed levels will not threaten the quality of waters of the State and that cleanup to these levels will protect human health and the environment or more stringent cleanup levels are infeasible.

COMPLETION DATE: September 1, 1992

- 2) **TASK 2: SOIL REMEDIATION.** If the present levels of pollutants (metals) in soil are higher than acceptable cleanup levels (standards), submit a technical report acceptable to the Executive Officer which is equivalent to a feasibility study, for remediating soil pollution. This study shall include an evaluation of technical feasibility and relative costs for three or more alternative remediation scenarios, two of which will be "no action" and

"complete removal of polluted soil", and a recommended alternative for implementation.

COMPLETION DATE: One year after written notice from the Executive Officer to proceed

- 3) TASK 3: GROUNDWATER REMEDIATION. Submit a technical report acceptable to the Executive Officer which compares the concentrations of identified pollutants (metals) in site groundwater to the maximum contaminant levels (MCLs) in drinking water for these same pollutants, and either proposes groundwater cleanup or demonstrates that cleanup is not necessary or is infeasible.

COMPLETION DATE: November 1, 1992

- 4) TASK 4: REMEDIATION IMPLEMENTATION. Submit a technical report acceptable to the Executive Officer which establishes a program for the implementation of site soil and/or groundwater cleanup proposed in Tasks 2) and 3) above, including a schedule for reporting to the RWQCB.

COMPLETION DATE: 60 days after written notice from the Executive Officer to proceed

b. MONITORING PROGRAM AND DEED RESTRICTIONS

- 5) TASK 5: GROUNDWATER MONITORING. Submit a technical report acceptable to the Executive Officer which proposes a groundwater self-monitoring program for the site and includes a schedule for reporting to the RWQCB.

COMPLETION DATE: January 15, 1993

- 6) TASK 6: DEED RESTRICTIONS. Submit a technical report acceptable to the Executive Officer which consists of deed restrictions for all or part of the property at 585 Robert Avenue in Santa Clara.

COMPLETION DATE: January 15, 1993

- 7) TASK 7: IMPLEMENT DEED RESTRICTIONS. Submit a technical report acceptable to the Executive Officer which documents that deed restrictions have been filed with the proper County Office and are in effect.

COMPLETION DATE: 30 days after written notice from the Executive Officer to proceed with implementation

c. STATUS REPORT

8) TASK 8: STATUS REPORT AND EFFECTIVENESS EVALUATION.

Submit a technical report acceptable to the Executive Officer containing the following: (1) results of any additional investigation including a soil cleanup study; (2) an evaluation of the effectiveness of installed final cleanup measures and cleanup costs; (3) additional recommended measures to achieve final cleanup objectives and goals, if necessary; (4) a comparison of previous expected costs with the costs incurred and projected costs necessary to achieve cleanup objectives and goals; (5) the tasks and time schedule necessary to implement any additional final cleanup measures; and (6) recommended measures for reducing Board oversight. This report shall also describe the reuse of extracted groundwater, evaluate and document the removal and/or cleanup of polluted soil. If safe drinking water levels have not been achieved and are not expected to be achieved through continued groundwater extraction and/or soil cleanup, this report shall also contain an evaluation of the feasibility of achieving drinking-water quality with the implemented cleanup measures and a proposal for alternative measures if required to achieve drinking water quality.

COMPLETION DATE: March 1, 1997

4. The submittal of technical reports evaluating proposed interim and final cleanup measures will include a projection of the cost, effectiveness, benefits and impact on public health, welfare and environment of each alternative measure. A remedial investigation and feasibility study shall consider guidance provided by Subpart F of the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Part 300); CERCLA guidance documents with reference to Remedial Investigations, Feasibility Studies and Removal Actions; and the State Water Resource Control Board's Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California".
5. Any proposal for the discharge of extracted groundwater included in a technical report required by this Order must initially consider the feasibility of reclamation or discharge to a publicly owned treatment works (POTW), as specified in Board Resolution No. 88-160. If it can be demonstrated that reclamation or discharge to a POTW is technically and economically infeasible, a proposal for discharge to surface water shall be considered. Such proposal for discharge to surface water shall include a completed application for an NPDES permit.
6. If the dischargers are delayed, interrupted or prevented from meeting one or more of the completion dates specified in this Order, the dischargers shall promptly notify the Executive Officer. In the event of such delays, the Board may consider modification of the task completion dates established in this Order.
7. Technical reports on compliance with the Prohibitions, Specifications, and Provisions of this Order shall be submitted quarterly beginning with the report for the fourth quarter (October through December) of calendar year 1992, due by February 15, 1993. Each of these reports shall consist of a brief letter report that (a) summarizes work completed since

the submittal of the previous report, and work projected to be completed by the time of the next report, (b) identifies any obstacles which may threaten compliance with the schedule of this Order and what actions are being taken to overcome these obstacles, and (c) includes, in the event of non-compliance with Provisions of this Order, written notification which clarifies the reasons for non-compliance and which proposes specific measures and a schedule to achieve compliance. This written notification shall identify work not completed that was projected for completion, and shall identify the impact of non-compliance on achieving compliance with the remaining requirements of this Order.

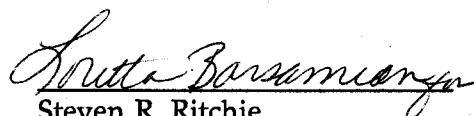
8. In addition to the report required in Provision 7 the dischargers shall submit an annual technical report beginning with the report for calendar year 1992, due by February 15, 1993. This report shall be an evaluation of the effectiveness of cleanup actions and the feasibility of attaining groundwater and soil cleanup goals. This report shall include updated water table/piezometric surface contour maps, pollutant concentration maps, geologic cross sections describing the hydrogeologic setting of the site, and appropriately scaled and detailed base maps showing the locations of all monitoring and extraction wells, and identifying adjacent facilities and structures. The report required in Provision 7 may be combined with this report when due dates coincide.
9. All hydrogeological plans, specifications, reports and documents shall be signed by and/or stamped with the seal of a registered civil engineer, or certified engineering geologist.
10. All samples shall be analyzed by State certified laboratories or laboratories accepted by the Board using approved EPA methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/quality control records for Board review.
11. The dischargers shall maintain in good working order, and operate as efficiently as possible, any facility or control system installed to achieve compliance with the requirements of this Order.
12. Copies of all correspondence, reports, and documents pertaining to compliance with the Prohibitions, Specifications, and Provisions of this Order shall be provided to the following agencies:
 - a. Santa Clara Valley Water District
 - b. Santa Clara County Health Department
 - c. City of Santa Clara
 - d. State Department of Health Services/TSCD

The Executive Officer shall receive one complete copy of all correspondence, reports, and documents pertaining to compliance with the Prohibitions, Specifications, and Provisions of this Order, and may require additional copies be provided to the U.S. Environmental Protection Agency, Region IX, and to a local repository for public use.

13. The dischargers shall permit the Board or its authorized representatives, in accordance with Section 13267 (c) of the California Water Code:

- a. Entry upon dischargers' premises in which any pollution sources exist, or may potentially exist, or in which any required records are kept, which are relevant to this Order.
 - b. Access to copy any records required to be kept under the terms and conditions of this Order.
 - c. Inspection of any monitoring equipment or methodology implemented in response to this Order.
 - d. Sampling of any groundwater or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the discharger.
14. The dischargers shall file a report on any changes in site occupancy and ownership associated with the facility described in this Order.
 15. If any hazardous substance is discharged in or on any waters of the State, or discharged and deposited where it is, or probably will be discharged in or on any waters of the State, the dischargers shall report such discharge to this Board, at (510) 464-1255 on weekdays during office hours from 8 A.M. to 5 P.M., and to the Office of Emergency Services at (800) 852-7550 during non-office hours. A written report shall be filed with the Board within five (5) working days and shall contain information relative to: the nature of the waste or pollutant, quantity involved, duration of incident, cause of spill, Spill Prevention, Control and Countermeasure Plan (SPCC) in effect, if any, estimated size of affected area, nature of effects, corrective measures that have been taken or planned, and a schedule of these activities, and persons notified.
 16. The Board will review this Order periodically and may revise the requirements when necessary.

I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on May 20, 1992.


Steven R. Ritchie
Executive Officer